The Status of Utility Demand-Side Management Activities in South Carolina for 1996

A report to
the South Carolina General Assembly
prepared by
the South Carolina Energy Office
of the State Budget and Control Board
Division of Regional Development
in cooperation with
the South Carolina Public Service Commission

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INTRODUCTION

This report summarizes demand-side management (DSM) activities for electric and natural gas utilities in South Carolina for 1996. Two basic themes emerge: (1) savings from demand-side management programs are declining, many existing programs are being eliminated, and new programs are not being implemented; and (2) there is a great deal of variation among the utilities in the degree to which they participate in demand-side activities.

PURPOSE OF REPORT

The purpose of the report is to describe demand-side options for meeting energy needs in South Carolina, with the hope of encouraging further implementation of demand-side management practices. Demand-side management refers to the use of cost-effective conservation, efficiency, and load management in order to reduce the demand for and cost of energy services. Demand-side management is a resource option that complements power supply. It not only saves customers money, but also helps utilities reduce pollution and avoid more costly supply-side investments. Demand-side activities are used to reshape energy use and demand, thus providing an important component of the energy resource mix. These activities are intended not only to delay the expense of power plant construction, but also to reduce air-polluting emissions and expenditures for fuel.

FINDINGS

Submittals were received from all 46 electric utilities operating in the state. Data was received from 14 of the 19 natural gas suppliers operating in the state, including all major suppliers.

Electricity

The demand for electricity in South Carolina is projected to grow over 14 percent between 1996 and 2001, or 2.9 percent annually. Utilities can take both supply- and demand-side approaches to meet this growth in demand. There are two basic goals of demand-side activities: reducing the peak demand for electricity; and reducing the overall amount of energy used.

Reductions in Peak Electricity Demand

Statewide peak demand in 1996 was 12,667 MW. Demand-side management reduced peak demand by 6 percent, or 766 MW, equivalent to reducing the need for the capacity of nine 80 MW combustion turbines.

coal-fired power plants. This compares to a national average of 4.76 percent in 1995. Application of DSM peak reduction principles by the utilities varies markedly; by 2001, Carolina Power & Light (CP&L) plans to reduce its peak demand by about 10 percent through demand-side management, while most other utilities will achieve significantly less.

Reductions in Electricity Consumption

Over 66.8 million MWh of electricity was used in 1996, at an expense to South Carolinians of over $4.7 billion. Demand-side activities reduced this total consumption figure by 0.41 million MWh, equivalent to $29 million. This 0.61 percent savings represents only a third of the 1995 national average of 1.91 percent reduction of consumption through demand-side management. Due to the elimination of existing programs, the contribution of demand-side activities to the reduction of electricity consumption is projected to decrease substantially by 2001.

Qualified Facilities

Qualified facilities include industrial cogenerators and independent power producers using renewable fuel sources. They currently provide 415 MW of power, meeting 3.3 percent of system peak demand. Duke Power is projecting the addition of a large cogeneration facility in Cherokee County in 1998. This facility will significantly increase capacity from qualified facilities in the state.

Natural Gas

There are two categories of demand-side activities for natural gas: (1) load building and fuel substitution programs; and (2) conservation and load management programs. During 1996, reported reduction in peak demand through demand-side management was 12,811 dekatherms (DT). Annual consumption was reduced by 290,534 DT, about a quarter of a percent. These numbers are small as most activities were focused on load building programs. However, natural gas utilities project that demand-side management activities will grow over the next five years.

CONCLUSION

DSM programs cut peak load by 6 percent in 1996, and this percentage is expected to decline over the next five years. Savings from DSM programs designed to reduce overall energy consumption are very small and decreasing at an even faster rate than peak load management savings. Carolina Power & Light and Duke Power are the most active participants in demand-side management, but there is considerable variation among South Carolina utilities in the degree to which they apply demand-side management

Due in part to the pending restructuring of the power industry, the future of demand-side management is uncertain.

THE STATUS OF UTILITY DEMAND-SIDE MANAGEMENT ACTIVITIES FOR 1996

This report provides demand-side information submitted by retail distributors of electricity and natural gas in South Carolina, including investor-owned utilities, Santee Cooper, electric cooperatives, and municipalities. The report includes actual data from calendar years 1992 through 1996, and projected data from 1997 through 2001.

Two basic themes emerge: (1) savings from demand-side management programs are declining, many existing programs are being eliminated, and new programs are not being implemented; and (2) there is a great deal of variation among the utilities in the degree to which they participate in demand-side activities.

The federal Energy Policy Act of 1992 (EPACT) introduced greater competition in the wholesale power industry while encouraging the use of integrated resource plans (IRPs) for both electric and gas utilities. IRPs are used to evaluate the full range of supply- and demand-side alternatives to provide utility services at the lowest system cost, and EPACT stipulates that utilities must give equal weight to both resource alternatives when formulating IRPs.

The Federal Energy Regulatory Commission (FERC) issued Order 636 in April 1992, which transformed the natural gas industry by unbundling various services. Prior to this, virtually no demand-side activities were pursued with the exception of load building options. As a result of FERC Order 636 and EPACT, the natural gas industry has become more competitive and market-driven, as can be seen by the initiation of new programs that promote conservation and load management. Use of demand-side programs by natural gas utilities is projected to grow substantially over the next five years.

PURPOSE OF REPORT

This is the fifth annual report on demand-side activities implemented by the suppliers of electricity and natural gas throughout South Carolina. This report was prepared by the South Carolina Energy Office in cooperation with the South Carolina Public Service Commission and meets the requirements of the South Carolina Code Section 58-37-30(A) & (B), as enacted by the South Carolina Energy Conservation and Efficiency Act of 1992.

The overall purpose of this report is to describe demand-side alternatives for meeting electric and gas needs in South Carolina, and to present that information to the people of the state, its elected officials and the utilities themselves, with the hope of encouraging further implementation of demand-side management practices.

Demand-side management refers to the use of cost-effective conservation, efficiency, and load management in order to reduce the demand for and cost of energy services. Demand-side management is a resource option that complements power supply. It not only saves customers money, but also helps utilities minimize pollution and avoid more costly supply-side investments. Demand-side activities are used to reshape energy use and demand, thus providing an important component of the energy resource mix. These activities are intended not only to delay the expense of power plant construction, but also to reduce air-polluting emissions and expenditures for fuel.

Demand-side programs are a clear alternative to supply-side options. For example, a utility may project additional demand of 300 MW. The utility can build a new generating plant (supply-side), or it can fund programs that will encourage customers to save 300 MW of energy (demand-side). The utility must determine which is cheaper: building and operating a new plant; or promoting efficiency. Each utility's long-range plan should provide for a mix of both supply-side and demand-side options.

Primarily, the report presents compiled information on the status of demand-side activities throughout the state, as well as near-future projections. This information can be used for the following: assessing alternatives for satisfying the ever-increasing demands for power; discerning long-range air quality options; and statewide energy planning. Purposes of the report are further discussed in Appendix C.

FINDINGS

The retail suppliers of electricity or natural gas are requested annually to submit information on each of their demand-side programs as both qualitative and quantitative data. A format was provided to each electric and natural gas supplier for data submission (see Appendix I for blank format, and for explanation, Appendix D).

Submittals were received from 100 percent of all electric utilities operating in the state, including four investor-owned electric utilities, Santee Cooper, 20 electric cooperatives and 21 municipalities.

Data was received from 14 of the 19 natural gas suppliers operating in the state, including all four major suppliers. Of the 14, six reported the existence of programs for residential, commercial or industrial customers, and eight reported no existing programs or plans for the implementation of demand-side programs.

The names of the electricity and natural gas companies submitting data are provided in Appendix B. Further discussion of responses from both electric and natural gas utilities is found in Appendix E.

Electricity

Peak demand for electricity in South Carolina is projected to grow over 14 percent by 2001, while total electricity consumption is projected to grow almost 18 percent by 2001. Electric utilities can take both supply-side and demand-side approaches to meet this growth of demand.

On the supply side, utilities can increase the supply of electricity in one of three ways: by building new plants; increasing the output, efficiency, and service life of existing plants; or purchasing electricity from other utilities or qualified facilities.

On the demand side, they can modify the demand for electricity through use of various activities designed to cause consumers to change the timing and level of electricity use.

Electric utilities have used demand-side activities for many years in South Carolina. There are two general goals of demand-side activities: (1) reducing the peak demand for electricity; and (2) reducing the overall amount of electricity used. The peak system demand is measured in megawatts (MW) and usually occurs during the late afternoon of summer months in South Carolina. Each distributor is responsible for providing as much power as needed to meet the peak demand on its system. In South Carolina, demand-side activities are reducing both the peak power demand and the total amount of electricity that needs to be generated.

Reductions in Peak Electricity Demand

Figure 1 illustrates the distribution, by utility, of the annual system peak demand for South Carolina in 1996. All municipalities that distribute electricity are grouped together and shown as a single source. Similarly, all electric cooperatives are grouped as a single source. The investor-owned utilities and Santee Cooper are shown separately, as each represents a sizable portion of the distribution of electricity. The sum of these sources is the actual amount of the annual system peak demand for 1996, which was 12,667 MW.

The remaining slice of the chart represents the combined effects of all demand-side activities from each distributor in reducing the demand for electricity. In 1996, this amounted to 766 MW, or 6 percent of what the total peak demand would have been had there been no DSM programs, or 13,433 MW. This compares to the 1995 national average of a 4.76 percent reduction of the total peak demand through demand-side management. Had demand-side activities not been in place, distributors of electricity in South Carolina would have been obliged to provide 766 MW of additional electricity during the annual system peak, an amount equivalent to the production of nine 80 MW combustion turbines

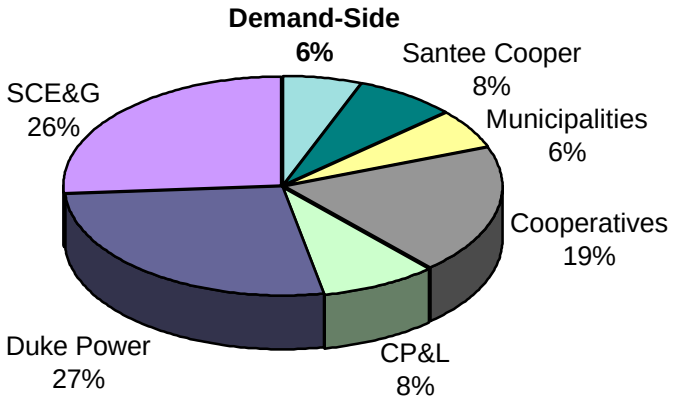

Figure 1. Distribution Sources of Supply to Meet Annual Peak Demand in 1996

Figure 2 shows the growth in peak system demand (in MW) for all utilities, compared to the effects of demand-side activities. Peak growth is calculated against a base year, 1988. Growth in peak demand is a major cause of higher energy bills, due to the expense of building new plants to meet higher demand. By increasing demand-side activities, utilities can reduce the need for new power plants and minimize customers' future bills.

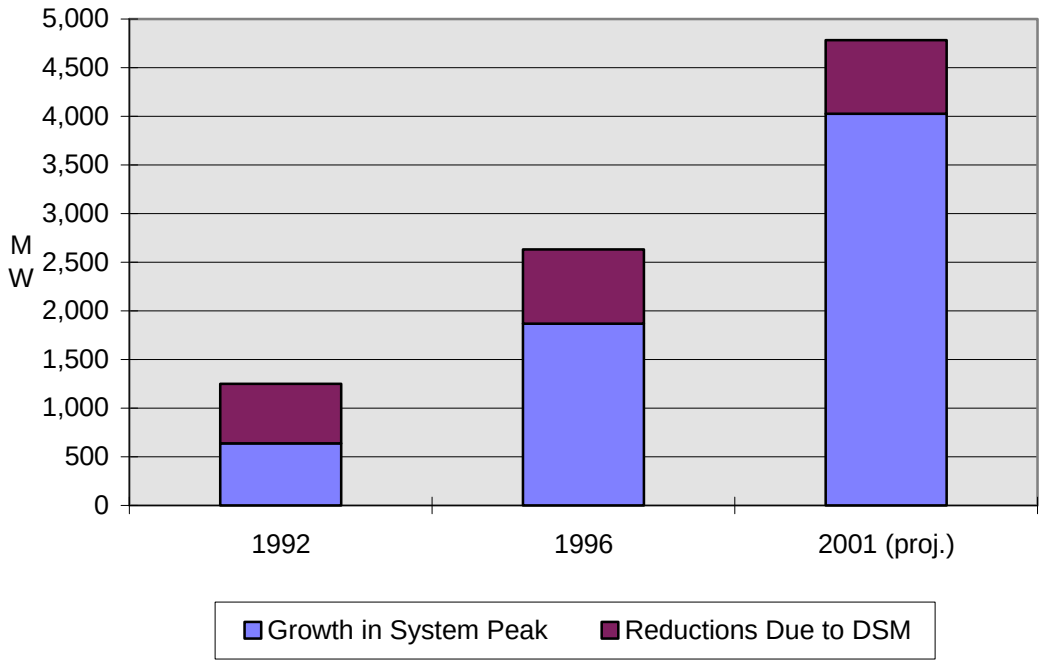

Figure 2. Growth in Peak Demand and Effect of Demand-Side Activities (in MW)

Of the five categories of electric utility DSM programs, three contribute nearly all the energy savings:

- Load management programs will provide 61 percent of the peak demand reductions in 2001.
- Energy efficiency programs, in addition to reducing overall consumption, are projected to account for 18 percent of the total peak demand reduction in 2001, almost 10 percent less than last projected in 1995.
- Standby generation will account for 17 percent of the total peak demand reduction in 2001.

The combined effect of these peak-reducing demand-side activities for all utilities is expected to decrease 14 MW over the next five years. This is due to the discontinuance of existing energy conservation and efficiency programs and the lack of new ones.

Further discussion of these peak-reducing demand-side activities can be found in Appendix F.

Figure 3 depicts the total amount of peak savings, by distributor, over a ten year period. The chart includes actual data for 1992 to 1996 and projected data for 1997 to 2001. Savings from demand-side management are projected to decline, and over the next five years, savings will be less than in 1996.

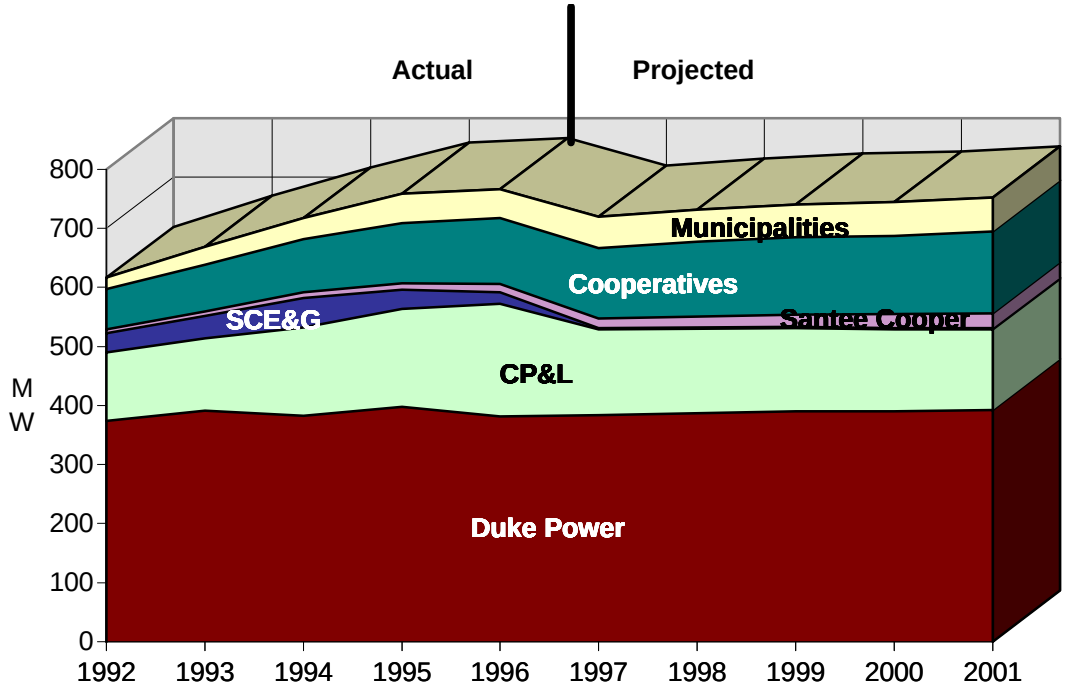

Figure 3. Peak MW Avoided Due to Demand-Side Activities

Moreover, planned future savings are being scaled back. Figure 4 conveys the change in utilities' projections. In the 1993 DSM report, utilities projected total savings from peak would be 1,008.09 MW in 1997. The 1994 report reflected a dramatic cutback in projections: the 1997 projection for savings from peak due to demand-side activities fell to 754.86 MW. The 1995 report showed a further drop-off, to 723.99 MW projected as total savings from peak in 1997. The current report shows 720.89 MW projected as total savings from peak in 1997, 287.2 MW and 28 percent less than the projection published in the 1993 report.

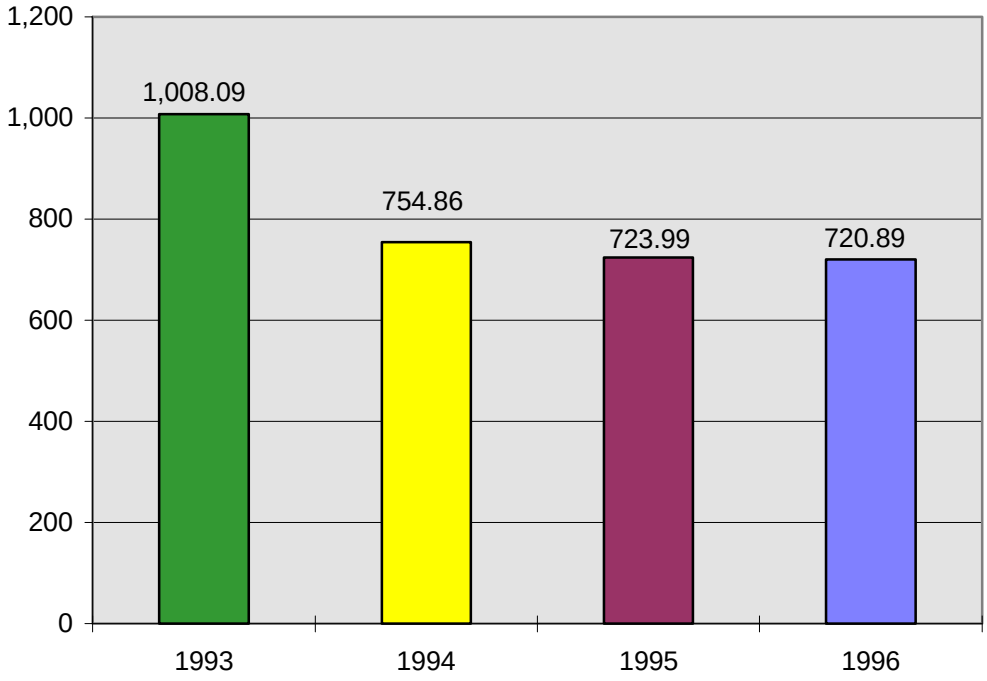

Figure 4. Changes in Projections for 1997 of Total MW Saved from Peak, 1993-1996

In the two years since the 1994 DSM Report, projections have shrunk by over nine percent. Figure 5 documents the changes among the various utilities' DSM programs between the 1994 and 1996 reports, with reference to projections for 1999. SCE&G and CP&L report the greatest changes. Their projections for savings from peak through DSM programs fell 89.3 percent and 20.7 percent, respectively. Duke Power and the municipalities as a group also revised their projections downward, while Santee Cooper and the cooperatives increased their projections. Taken as a whole, however, the electric utilities, during a two-year period, cut back their projections for 1999 reductions from peak MW by 9.3 percent.

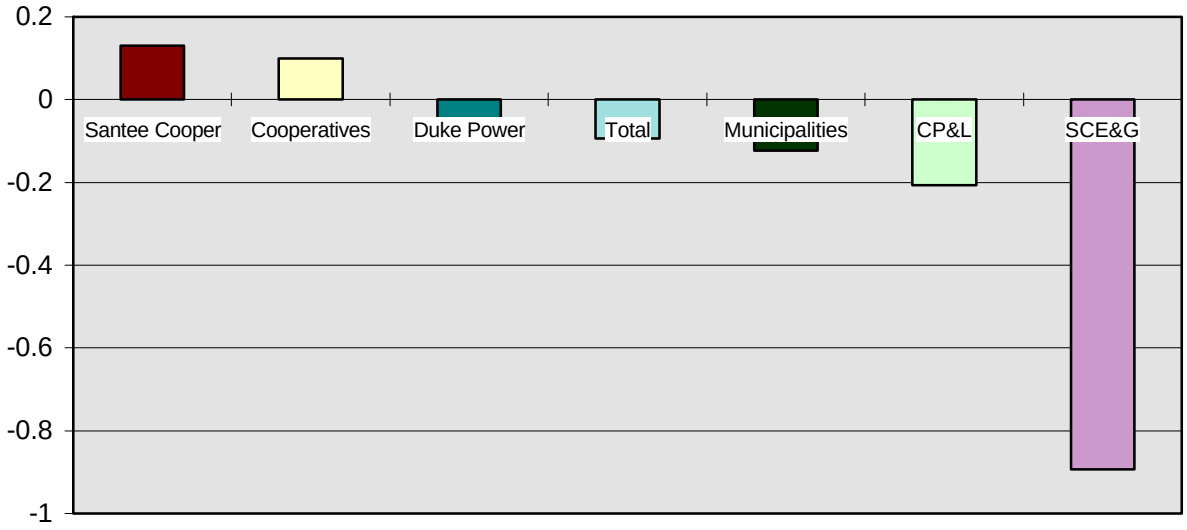

Figure 5. Change in Projections for 1999 Savings from Peak Through DSM, 1994-96

Figure 6 depicts the percentage of peak demand projected to be accounted for by demand-side management programs for the year 2001 for the investor-owned utilities, Santee Cooper, the municipalities, and the electric cooperatives. CP&L is slated to reduce its peak demand by 10 percent through demand-side activities, and Duke projects a nine percent peak reduction.

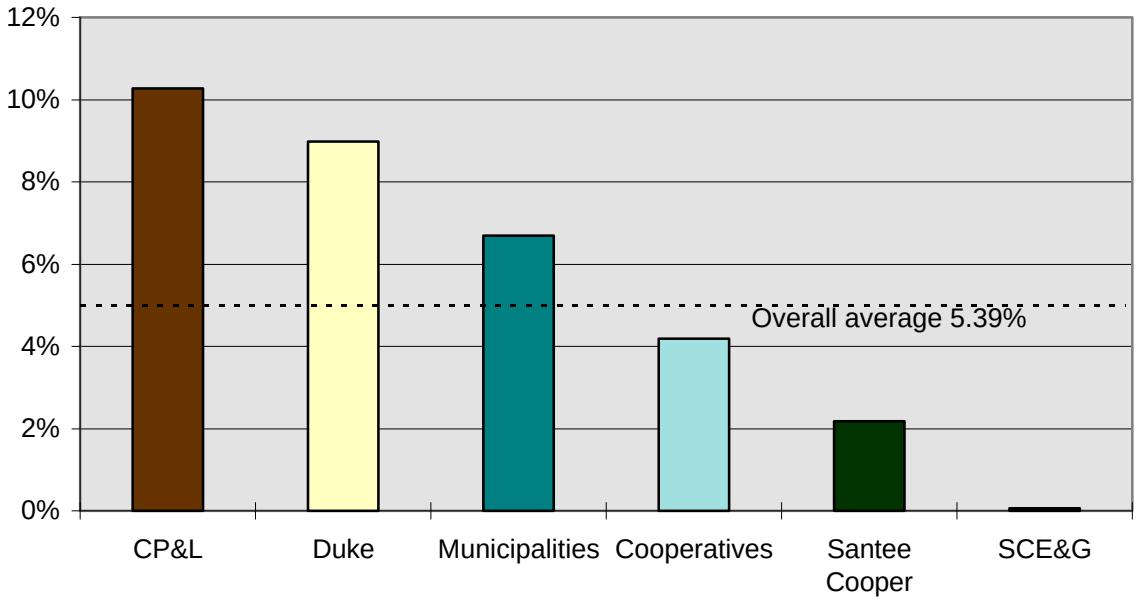

Figure 6. DSM as Percentage of Peak Demand, 2001 (Projected)

The municipalities report great variation in their demand-side management programs. Municipalities projecting better than average peak reductions for the year 2001 from demand-side programs are as follows: Gaffney, 28.5 percent savings from peak demand; Rock Hill, 10.1 percent; Easley, 10.3 percent; Greenwood, 11.2 percent; Camden, 11.2 percent; and Greer, 7.4 percent. Most of these savings come through peak shaving and standby generation programs maintained by the municipalities themselves, as opposed to customer-based programs. The other 15 municipalities responding project below average results for 2001; many report no demand-side activities whatsoever.

There is also considerable variation among the electric cooperatives, but less than among the municipalities. Above average demand-side management programs include those offered by the following: the Saluda River Electric Cooperative system (composed of five distribution cooperatives: Blue Ridge, Broad River, Laurens, Little River, and York), projecting peak savings of 6.7 percent in the year 2001, Berkeley Electric Cooperative, 5.4 percent.

Complete details are in Appendix H.

Reductions in Electricity Consumption

The second goal of demand-side activities is to increase efficiency by reducing the overall amount of energy used over time (as opposed to the peak amount used at a given instant). This energy is measured in MWh and, for the purposes of this report, represents annual use. Whereas lowering of peak demand reduces the need for additional power plants, reducing the amount of energy used conserves fuel resources, reduces consumers' energy bills and reduces harmful emissions into the atmosphere.

Figure 7 shows the proportions of electricity distributed by utilities during 1996 along with the portion of consumption that was avoided due to the combined effect of all demand-side activities. Over 66.8 million MWh of electricity was used in 1996, at a cost to consumers of about $4.7 billion. The combined effects of all demand-side activities was 0.41 million MWh saved, or a 0.61 percent reduction in the consumption of electricity for that year. Although this represents savings to consumers of about $29 million each year, the 0.61 percent South Carolina reduction in consumption was only one-third of the 1995 national average of a 1.91 percent reduction in energy consumption from utility-sponsored demand-side activities. (Appendix F provides a description of the various kinds of demand-side management programs implemented by South Carolina electric utilities.)

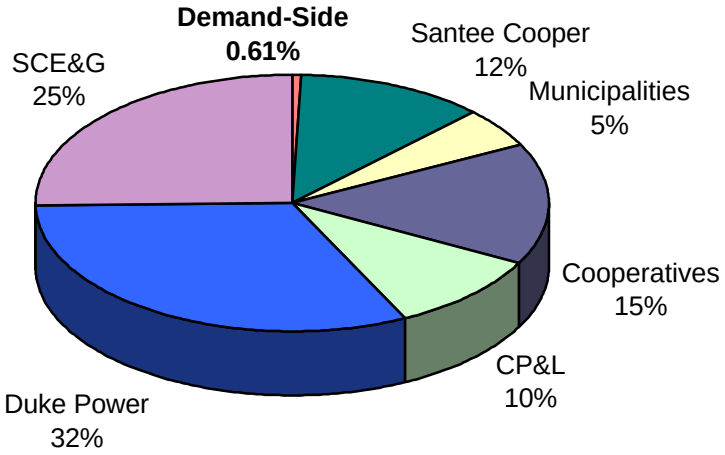

Figure 7. Distribution Sources of Supply for Electricity Consumption in 1996

Although the average unit residential price for South Carolina electric utilities is better than the average rates for 28 other states, South Carolina residential consumers rank eighth in the nation in the per household amount of money spent on electricity (*Statistical Yearbook of the Electric Utility Industry, 1995,* Edison Electric Institute). The high expenditures on electricity are the result of high consumption levels, not high rates. Demand-side management conservation programs reduce consumption levels. Because of South Carolina's high electricity use and high

expenditures, increased energy conservation through cost-effective demand-side management programs has considerable potential for saving the state's consumers many more millions of dollars.

Figure 8 compares the growth in total consumption with savings due to demand-side activities. Consumption growth is compared to a base year of 1988. Utilities can reduce the rise in customers' bills by expanding demand-side activities.

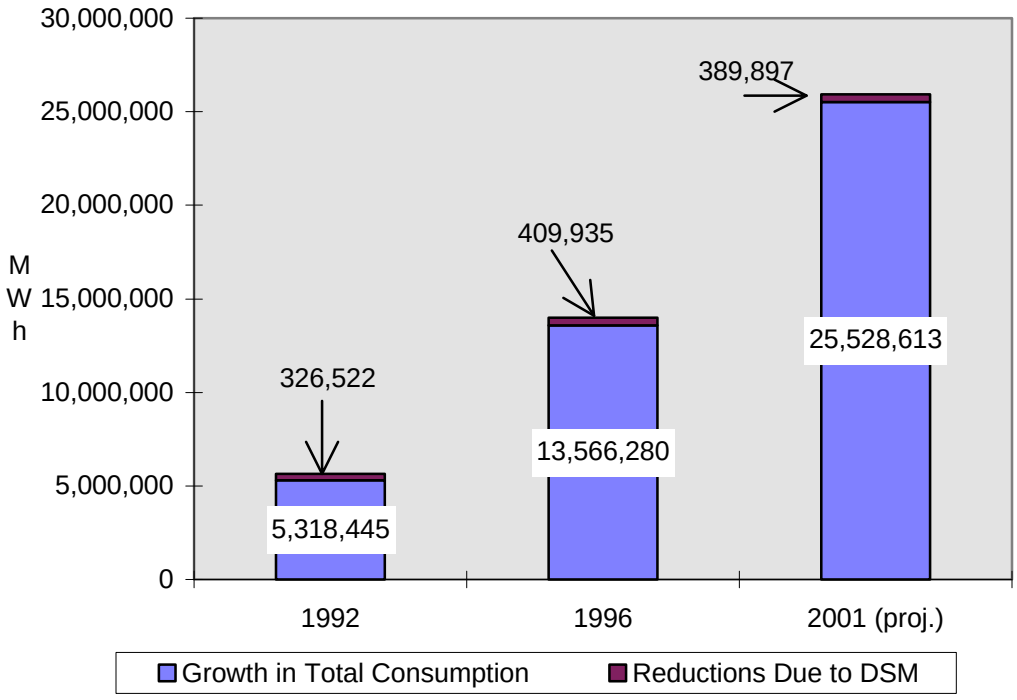

Figure 8. Power Supply Growth vs. DSM Savings (MWh)

Figure 9 depicts total electricity use avoided due to DSM activities over a ten-year period. Their cumulative effect is expected to decrease 20 percent from the 1994 peak.

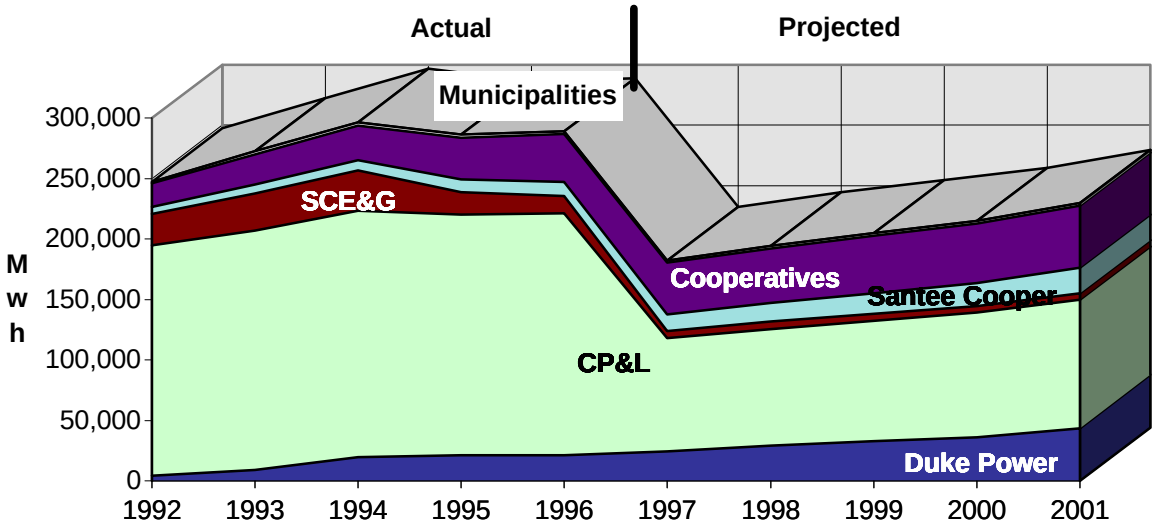

Figure 9. Annual MWh Avoided Due to Demand-Side Activities

Comparable to Figure 6, Figure 10 depicts energy savings in MWh from demand-side activities as a percentage of total power generation, as projected for the year 2001. CP&L projects that by 2001 demand-side activities will reduce its system's total energy consumption by 1.39 percent, while the Coops project that their total consumption will be reduced by 0.37 percent. Santee Cooper, Duke and SCE&G project even lower savings.

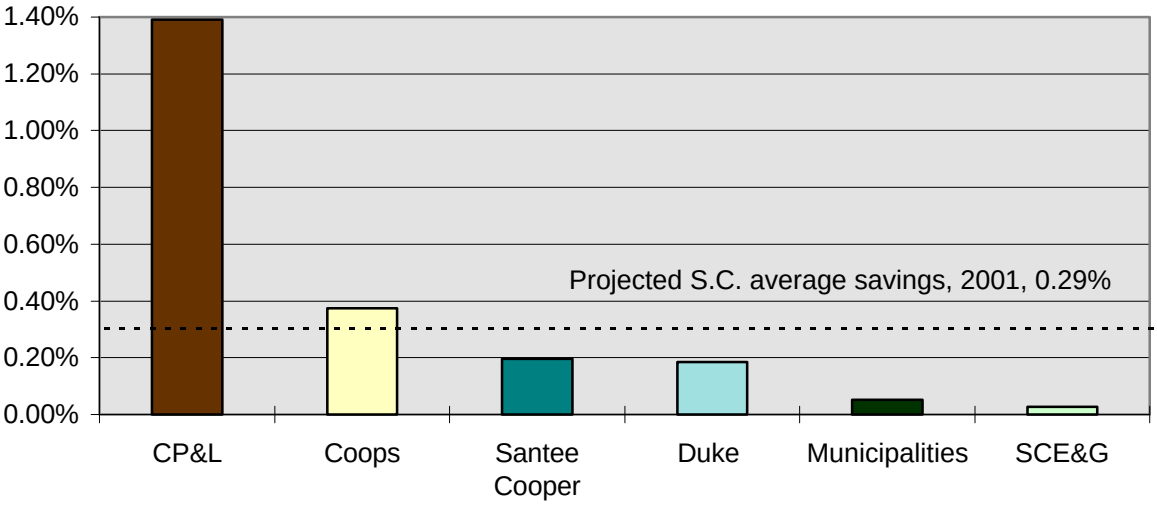

Figure 10. Energy Savings from DSM as Percentage of Total Generation, 2001 (Proj.)

Electric cooperatives projecting the most energy savings from demand-side activities for the year 2001 include: Horry, 0.8 percent; Mid-Carolina, 0.7 percent; and Berkeley, 0.6 percent. The remaining 13 electric cooperatives project lower results for energy savings from demand-side activities for 2001.

Demand-side programs offered by the municipalities place little emphasis on overall energy savings. Only Gaffney (0.32 percent savings projected for 2001), Camden (0.19 percent savings), and Rock Hill (0.11 percent) project significant activity.

Complete details are in Appendix H.

Qualified Facilities

The federal Public Utilities Regulatory Policies Act of 1978 (PURPA) allows end users who need to generate power for their facilities to make any excess power available to the electric utilities supplying those users. PURPA also allows private companies to generate and to supply electricity to public utilities if that power is generated using renewable energy resources. A Qualified Facility (QF), as defined by PURPA, includes industrial cogeneration facilities and such sources as independent power producers using renewable fuel sources, including wood wastes, incinerated municipal solid waste and small-scale hydro-electricity. Qualified facilities reduce the need for new power plants just as load management does, by reducing the demand on utilities' systems at peak times.

Figure 11 shows comparisons of total displacement from qualified facilities in South Carolina, purchases from qualified facilities, total peak, and total peak MW saved through demand-side activities. Electricity from qualified facilities is classified into two categories: purchase, meaning the utilities purchase the power generated; and displace, meaning that the power is used by the facility itself, which would otherwise be using power from the utility's grid. Displacement from qualified facilities, in other words, is analogous to the other demand-side activities detailed in this report, in that it contributes to reducing overall system peak. Purchase is a direct, non-utility addition to total system peak capacity.

In 1996, cogenerators provided 245 MW of purchase power and 170 MW of displacement power, for a total of 415 MW of power, meeting 3.3 percent of system peak.

The DSM, QF displacement and QF purchase bands represent a total of 1,181 MW for 1996 and, with the addition of new QF capacity in the near future, 1,267 MW in 2001. This means that DSM, QF displacement and QF purchase have allowed utilities to avoid the need for the construction of the equivalent of four new 300 MW coal-fired power plants. If the DSM, QF displacement and QF purchase bands were larger, the need for additional power plants in the future would be even less.

A listing of qualified facilities and their generating capacities is included in Appendix G.

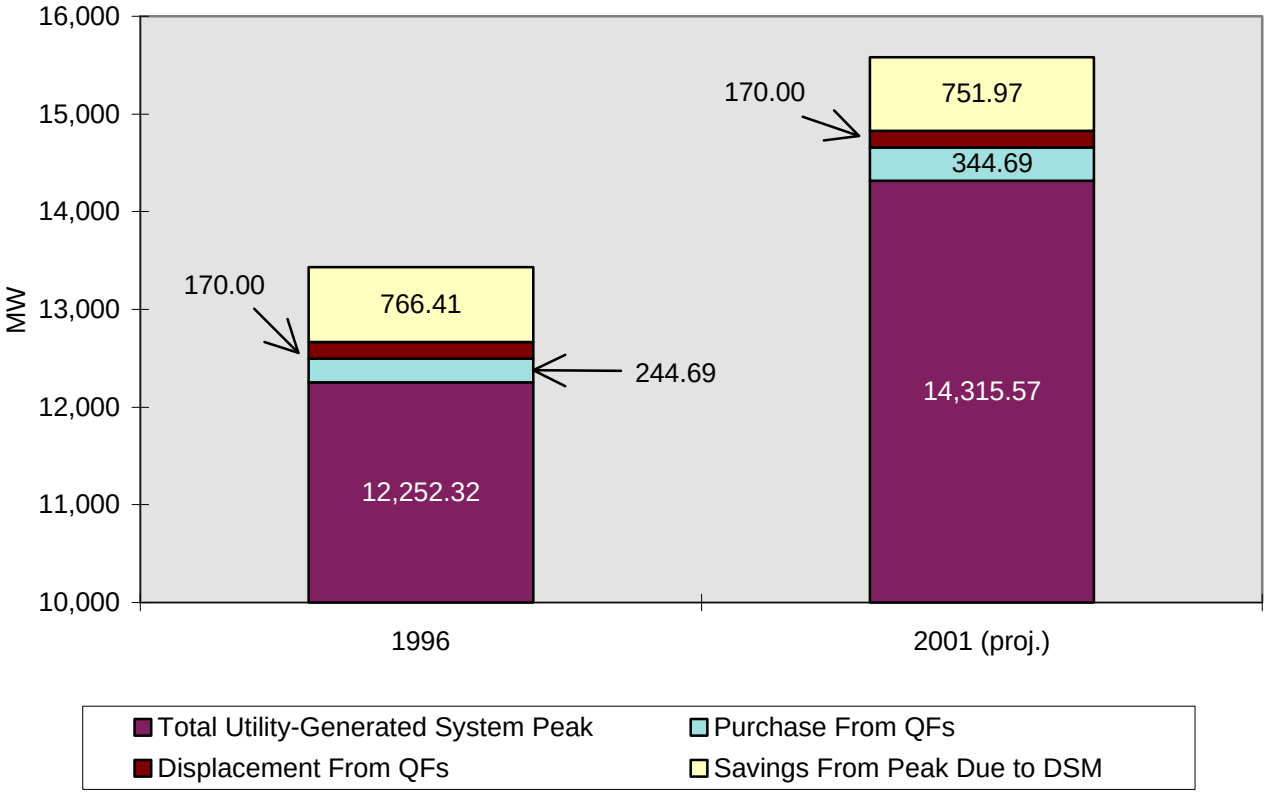

Figure 11. Total Capacity from Qualified Facilities and DSM vs. Total Peak

Duke Power projects the addition of a large facility in Cherokee County in 1998. This will increase Duke's annual energy from qualified producers by 100 MW by 1999.

Figure 12 shows the annual contribution of energy, measured in MWh, from both cogeneration facilities and renewable energy technologies for ten years, including actual data from 1992 to 1996 and projected data from 1997 to 2001. This includes energy purchased by utilities, but not energy that was displaced for internal consumption. As can be seen on the graph, the energy produced from these facilities has decreased eight percent over the last five years, but because of additions to the Duke Power system, is projected to increase 42 percent over the next five years.

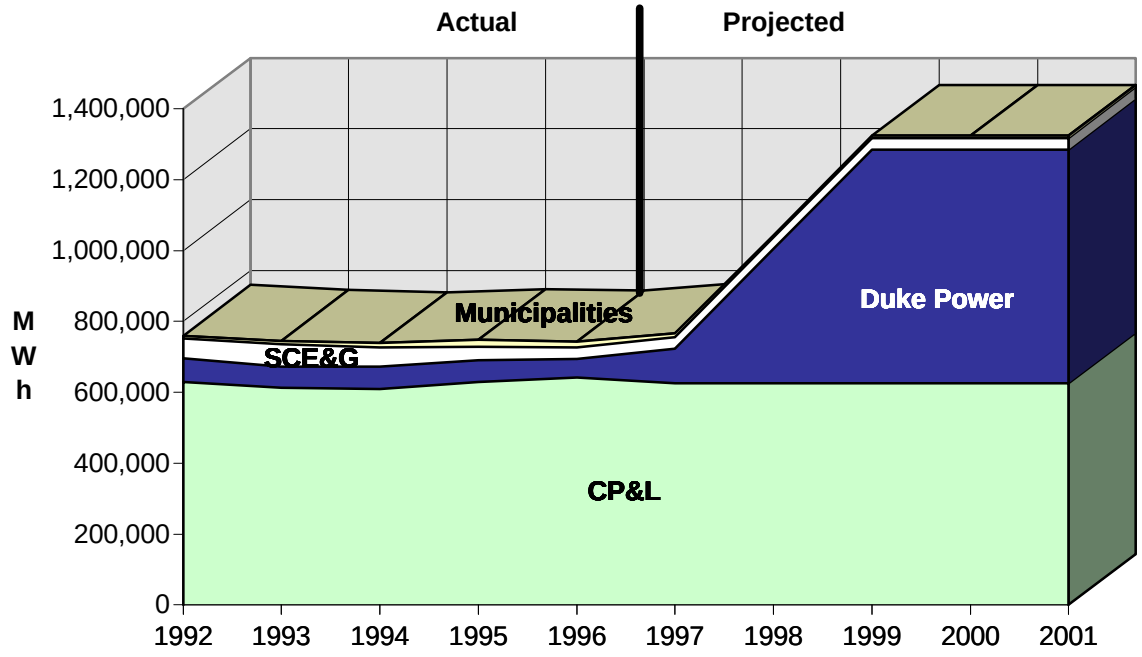

Figure 12. Annual Energy from Qualified Facilities

Natural Gas

The basic purpose of demand-side activities is to change energy-use decisions of customers in ways that are beneficial to both the customers and to the utility itself. Whereas electric utilities must meet their load instantaneously, natural gas suppliers have the ability to store gas and use interruptible contracts to maintain reliability. There are two categories of demand-side activities for natural gas: (1) load building and fuel substitution programs; and (2) conservation and load management programs.

Load building and fuel substitution programs are designed to entice consumers to use natural gas instead of other energy sources. There are no avoided cost savings, but the increase in gas sales allows the fixed costs of the distribution system to be spread over a larger gas volume, thus lowering gas rates. Although load building encourages consumption and thus does not meet most standard definitions of demand-side management, these programs qualify as demand-side activities under the South Carolina Public Service Commission's statement of objectives for integrated resource planning.

Conservation and load management programs encourage the consumer to use energy more efficiently. The major targeted groups are newly constructed residences, existing residences, commercial buildings, and industrial facilities. These programs promote the use of more effective building envelopes and high efficiency appliances and climate conditioning equipment.

The total number of customers participating in these activities in 1996 was 12,811, out of a total of 420,754 natural gas customers. During 1996, reported reduction in peak demand through demand-side management was 10,467 dekatherms (DT). Annual consumption was reduced by 290,534 DT, or about quarter of a percentage point.

However, natural gas utilities project that load management demand-side management activities will grow over the next five years. By 2001, utilities are expecting a reduction of 12,397 dekatherms in the annual peak, although the annual consumption of natural gas is expected to increase. Activities in the industrial sector contribute the majority of this peak reduction, and the commercial and residential sectors make up the rest. Figure 13 depicts projected savings from natural gas DSM programs for the three utilities that provided significant projected savings.

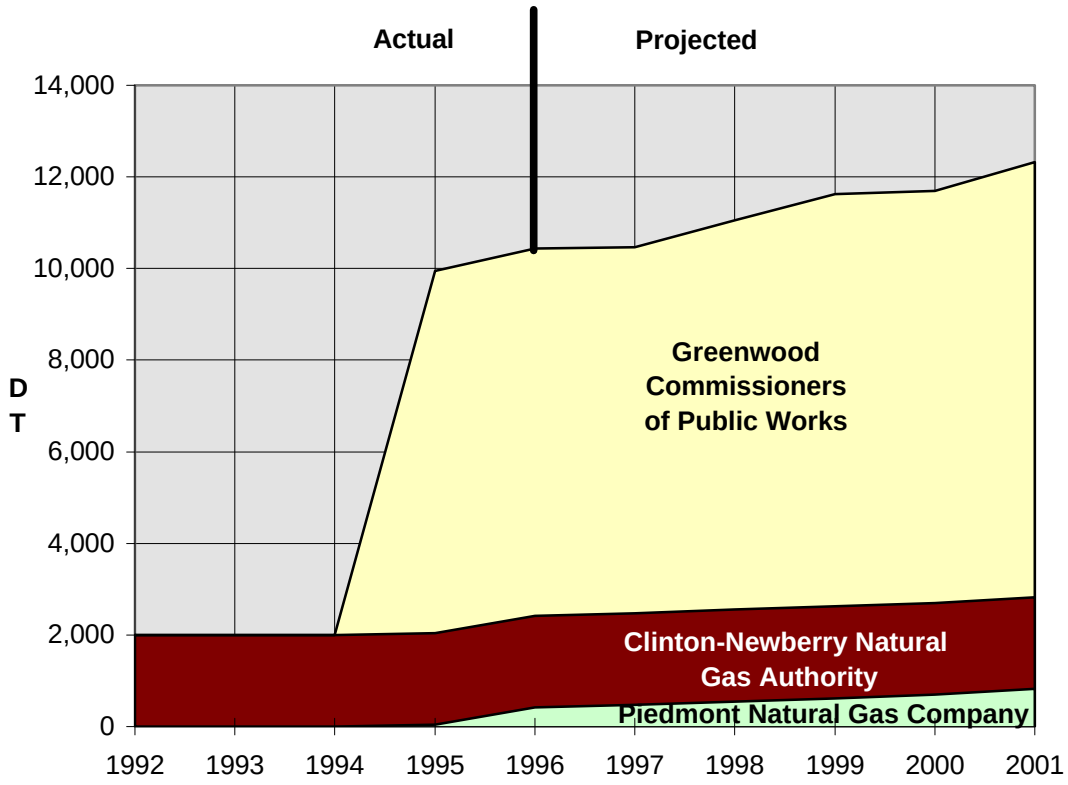

Figure 13. Peak DT Avoided Due to Demand-Side Activities

The compiled numerical data for natural gas DSM programs is contained in Appendix H.

CONCLUSION

Electric utilities continually evaluate demand-side programs and create, modify, or eliminate them as required to meet generation and transmission system needs, revenue needs, and customer needs. Demand-side programs, which were used to shave six percent off peak demand during 1996 and reduce consumption by 0.61 percent, are clearly declining in use by utilities. Few new programs are coming on-line, and many existing programs are being eliminated. Projections are being scaled back from those reported previously. However, there is considerable variety among the utilities in the application of demand-side management.

The future of electric demand-side programs cannot be predicted with certainty due to the pending restructuring of the electric industry. Demand-side programs help reduce harmful

emissions. At the same time, they cut electric bills and improve economic productivity. However, investor-owned electric utilities are seriously questioning the future of conservation and load management programs. Programs that may make sense in a regulated market with government-guaranteed customer bases may not make as much sense in a deregulated market, at least in terms of payoff for stockholders. If a utility has no guarantee of continuing to be able to serve a customer in the future, it clearly has less incentive to spend money now to help that customer reduce its energy needs in the future.

In a highly competitive electricity marketplace, growth in energy sales will necessarily take precedence over the long-range energy efficiency programs in service areas, since there may be no service areas. Similar to the deregulation situation of the telecommunications industry, consumers may be encouraged to use more, not less, electricity. Price-wise, there will be winners and losers; large industrial users will clearly be winners, but the nature of the wins and losses for other classes of consumers (e.g., residential users, rural and small-town consumers, low-income citizens) is yet to be determined.

The distinction between electric rates, as measured in cents per kWh, and electric bills, as measured in rates times number of kWh consumed, is important. South Carolinians have somewhat low average rates and somewhat high average bills. In a competitive market, utilities may focus on keeping rates low, in order to attract customers. In order to maximize profits, they will encourage high sales volumes. Customers, on the other hand, will be impacted by their bills; the greatest determinant of bills is volume of use, not rates. The best way to keep bills down is through conservation and efficiency.

A dilemma lies in the concept of “cost-effective” demand-side management. A program which is cost-effective for a consumer is one which saves the consumer more money through reduction in consumption than it adds through increase in unit price. Thus, a cost-effective conservation program can, by increasing efficiency, raise unit costs but cut total utility bills if less electricity is needed.

Cost-effective for a utility stockholder, on the other hand, means that the program adds more to the utility’s profit than it adds to the utility’s costs. Thus, in a competitive situation, the cost-benefit ratio for utility stockholders is quite different from the cost-benefit ratio for consumers. In a system of regulated monopolies, however, an enlightened and meticulous regulatory policy can bring the cost-benefit scenarios together into a win-win situation for all parties.

Also yet to be determined are environmental impacts. Unlike the telecommunications industry, the electricity industry builds power plants and consumes fossil and nuclear fuel. It is quite possible that increased emphasis on greater sales over total territorial customer service will result in greater adverse environmental impacts associated with power plant construction and electricity generation, including impacts on air quality, water quality and natural resource preservation. It may be also be possible, however, to guide deregulation in such a way as to minimize adverse environmental impacts.

In any case, electric utilities increasingly cite the prospect of future deregulation as a reason for cutting back on future energy conservation activities.

The Energy Policy Act of 1992 (EPACT) introduced competition into the electric industry in several ways. EPACT increased competition in the area of generation by establishing exempt wholesale generators (EWGs). It also resulted in issuance of FERC Order 888 in 1996, which requires transmission utilities to establish open access tariffs, thus requiring utilities to transmit, or wheel, power for third parties to wholesale customers. Although EPACT does not mandate transmission access for retail customers, states can authorize such access to and for retail electric customers. Deregulation legislation is pending in the South Carolina General Assembly.

There is no doubt that demand-side programs are declining, and there is no doubt that the deregulation issue is partially driving this decline. It remains to be seen whether conservation and load management programs that are cost-effective in a regulated market structure can be modified to continue to prosper in market structures of the future. New technology which allows such programs as time-of-day pricing for even the smallest customers, along with precise knowledge of the environmental nature of generation sources at any given time, may allow citizens to reap the benefits of competition without sacrificing the economic and environmental benefits of conservation and efficiency.

APPENDICES

APPENDIX A
Definitions

Cogeneration systems produce both electricity and process steam or heat from a single fuel source. Cogeneration works best in industrial operations that use significant amounts of both electricity and process steam or heat on a relatively stable day-to-day basis.

Demand-side management (DSM) refers to the use of cost-effective conservation, efficiency, and load management in order to reduce the demand for and cost of energy services. Demand-side management is a resource option that complements power supply. It not only saves the customer money, but also helps a utility achieve less pollution and avoid more costly supply-side investments.

Dekatherm (DT) is a unit of measurement of natural gas, equal to 1,000,000 BTUs, or 293 kWh.

Kilowatt (kW) is a measure of real power, equal to 1,000 Watts. A common equivalent is that 3/4 kW is equal to one horsepower. Higher quantities are expressed in megawatts (MW), equal to one million watts. A typical coal-fired electric plant produces about 300 MW.

Kilowatt-hour (kWh) is a unit of electrical measurement indicating the expenditure of 1,000 watts for one hour. Higher quantities are expressed in megawatt-hours, or the expenditure of one thousand kilowatts for one hour.

Load management shifts demand for power from periods of peak demand to periods of less demand. Although this process may more efficiently utilize generation and transmission systems, and thus reduce the need for construction of generating and transmission facilities, it does not necessarily decrease the overall use of energy.

A **Qualified Facility** (QF) is defined by the Public Utilities Regulatory Policies Act of 1978 and includes industrial cogeneration facilities and such sources as independent power producers using renewable fuel sources, such as wood wastes, incinerated municipal solid waste and small-scale hydro-electricity.

When **retail wheeling** occurs, end users of electricity may choose from among several power producers regardless of geographical location, and have the purchased power “wheeled” to them through existing transmission and distribution lines owned by utilities which may be different from the seller of the purchased power. Current ideas for restructuring the electric industry include proposals to permit retail wheeling.

APPENDIX B
Utility Participation in Survey

Electric Utilities

Central Electric Power Cooperative, 15 members:
- Aiken Electric Cooperative
- Berkeley Electric Cooperative
- Black River Electric Cooperative
- Coastal Electric Cooperative
- Edisto Electric Cooperative
- Fairfield Electric Cooperative
- Horry Electric Cooperative
- Lynches River Electric Cooperative
- Marlboro Electric Cooperative
- Mid-Carolina Electric Cooperative
- Newberry Electric Cooperative
- Palmetto Electric Cooperative
- Pee Dee Electric Cooperative
- Santee Electric Cooperative
- Tri-County Electric Cooperative

Saluda River Electric Cooperative, 5 members:
- Blue Ridge Electric Cooperative
- Broad River Electric Cooperative
- Laurens Electric Cooperative
- Little River Electric Cooperative
- York Electric Cooperative

Bamberg Board of Public Works
City of Bennettsville
City of Camden
City of Georgetown
Greenwood Commission of Public Works
McCormick Commission of Public Works
Town of Due West
Orangeburg Department of Public Utilities
Town of Prosperity
Seneca Light and Water Plant
Town of Winnsboro
Piedmont Municipal Power Authority
- City of Abbeville
- Clinton Public Works
- Easley Combined Utility System
- Gaffney Board of Public Works
- Greer Commission of Public Works
- Laurens Commission of Public Works
- City of Newberry
- City of Rock Hill
- City of Union
- Westminster Commission of Public Works

Carolina Power & Light Company
Duke Power Company
Lockhart Power Company
South Carolina Electric & Gas Company
Santee Cooper (South Carolina Public Service Authority)

Natural Gas Utilities

Chester County Natural Gas Authority
Clinton-Newberry Natural Gas Authority
Fort Hill Natural Gas Authority
Lancaster County Natural Gas Authority
York County Natural Gas Authority
Bamberg Board of Public Works
City of Bennettsville
City of Fountain Inn
Greenwood Commission of Public Works
Town of Blacksburg
Piedmont Natural Gas Company
South Carolina Electric & Gas Company
South Carolina Pipeline Corporation
United Cities Gas Company

APPENDIX C
Purposes of the Report, and Statutory Requirements

The overall purpose of this report is to describe alternative ways to manage the growth in energy demand in South Carolina, and to present that information to the people of the state, its elected officials and the utilities themselves.

Its second purpose is to stimulate an improved interest in pursuing demand-side activities wherever economically and environmentally prudent [S.C. Code, Section 48-52-210(B)(3)]. By increasing awareness about demand-side activities statewide, the report is intended to lead to expansion of these activities, and to lower energy use overall.

The third purpose of this report is to encourage utilities to maximize the use of cost-effective demand-side options in meeting the future energy needs of the citizens of South Carolina [S.C. Code, Section 48-52-420(5)].

There are several specific objectives that fulfill the stated purposes of this report:

(1) To report the past, on-going and projected status of demand-side activities and purchase of power from qualified facilities [S.C. Code, Section 58-37-30(B)];

(2) To report the proportion of energy generation that is avoided by the use of demand-side activities in South Carolina;

(3) To report the numerical trends of the effects of demand-side activities.

These objectives are met in such a way as to minimize duplication of information reported by the retail suppliers of electricity and natural gas, appropriately using information already reported to other governmental entities.

APPENDIX D
Description of Data Requested from Utilities

Qualitative Data

Utilities were asked to discuss any changes in their demand-side management programs since the report on 1995 activities, and on the possible effects of retail wheeling. When retail wheeling occurs, end users of electricity may choose from among several power producers regardless of geographical location, and have the purchased power "wheeled" to them through existing transmission and distribution lines owned by utilities which may be different from the seller of the purchased power. Current proposals to restructure the electric industry include calls to permit retail wheeling.

Quantitative Data

Two basic types of numerical data are provided: specific data on each demand-side activity and data on each supplier's system as a whole. This combination of data allows comparisons of the effect of demand-side activities to total system loads. The data describes energy used by retail customers, but not wholesale customers. This procedure is necessary to avoid double counting data when combined on a statewide basis.

Descriptions of the numerical data requested from suppliers of electricity are provided below. Descriptions for suppliers of natural gas closely follow the same structure, except for the units of data (i.e., dekatherms). The item numbers below correspond to the item numbers on Data Forms 1 and 2 (see Appendix I).

Data Requested For Each Demand-Side Activity

(1) Total kW Saved (or avoided) from Annual Peak for this Demand-Side Activity

This item requests the amount of kW saved by lowering the highest peak demand experienced during each calendar year through this demand-side activity. The sum of these values provides the total amount of generating capacity that was not needed due to the beneficial effects of demand-side activities.

(2) Total Annual kWh Saved (or avoided) for this Demand-Side Activity

This value represents the amount of energy in kWh saved over a calendar year from each demand-side activity. The sum of these values provides the total amount of annual generation that was avoided because of the beneficial effects of demand-side activities.

(3) Proportion of Total Customers in Class for Whom this Demand-Side Activity Is Available

This item identifies the percentage of retail customers in a particular class to whom a specific demand-side activity is available.

(4) The Number of Customers Participating in this Demand-Side Activity

This item specifically refers to the number of customers participating in this demand-side activity at or nearest the time of the annual peak demand.

(10) Direct Utility Program Costs for this Demand-Side Activity

This year, for the first time, an attempt was made to assess dollar expenditures by utilities on demand-side management programs. Problems that arose with this attempt will be discussed below under *(11).*

Data Requested For Each Supplier's System as a Whole

(5) Annual Peak System Demand in kW

This item requests the total amount of retail energy demand in kW during the highest annual peak demand during each calendar year.

(6) Total Annual System kWh Sales

This value shows the total amount of annual generation in kWh that was used by retail customers.

(7) Total Miles of Distribution Line

This provides a measure of the relative size of the distribution system.

(8) Total Number of Customers (all classes)

(9) Total Generation (kWh) Supplied from Qualified Producers or Avoided Due to Their Generation.

This item is necessary to determine the contribution of total generation supplied from these producers. A listing showing the identity and generating capacity of each qualified producer on the supplier's system is necessary to track changes and assess the potential of this energy source. Qualified producers are those, such as cogeneration facilities, from which the utilities are required to purchase power under the Public Utility Regulatory Policies Act of 1978 (PURPA). Cogeneration systems produce both electricity and process steam or heat, from a single fuel source. Cogeneration works best in industrial operations that use significant amounts of both electricity and process steam or heat on a relatively stable day-to-day basis.

(11) Total Program Costs, Including Direct and Indirect Utility Costs, and Nonutility Costs ($1,000s)

This item, along with item *(10),* was included in the survey for the first time this year. Because of data problems, these items failed to yield any useful information.

APPENDIX E
Description of Utility Responses

This report addresses reported demand-side activities in South Carolina only. However, two investor-owned electric utilities and one investor-owned natural gas utility also supply energy to customers outside of the state. Because demand-side data is collected on a system-wide basis, the percentage of demand-side activities for South Carolina was estimated. Carolina Power & Light Company applied a correction factor for each program based on historic progress in recent years. The data submitted by Duke Power Company was allocated on the basis of South Carolina retail demand as a percentage of total retail demand reflected in a recent jurisdictional study. Similarly, Piedmont Natural Gas, which supplies natural gas both in and outside of South Carolina, estimated demand-side data specific to the state.

Each group reported demand-side activities in various categories and customer classes. Some demand-side activities, such as load management programs, do not appreciably reduce the use of energy. Load management aims to shift the demand for power to periods of less demand. Although this may more efficiently utilize generation and transmission systems and thus reduce the need for construction of generating and transmission facilities, it does not necessarily decrease the overall use of energy. This report considers the energy values reported for each demand-side activity to be net values, thus reflecting the combined effect of decreases and increases in energy use from those activities that are determined to use more energy during the off-peak periods.

Accurately measuring the effect of demand-side activities is difficult because many variables can change the use of energy over a period of time. The measurement must determine the amount of energy that would have been used had the demand-side activity not been in effect. Sorting out which changes were attributable to demand-side activities and which were the result of other factors is not an exact process. The industry continues to research and to improve the estimates in order to enhance the reliability of future determinations of the impact of demand-side activities.

For example, Duke Power reports DSM activities differently from other utilities operating in South Carolina. Duke does not calculate accumulated energy efficiency savings. Savings from DSM for a given year are incorporated into the system peak and total energy usage estimates for the next year. What this means is that Duke's reported DSM activity tends to fluctuate more than those of the other utilities.

Of those natural gas utilities that indicated they had current or projected demand-side activities, the data was reported for various categories and customer classes. Load building and fuel substitution programs develop new sales, allowing fixed costs to be spread over larger gas volumes, thereby lowering costs to current customers. The conservation and load management programs reduce peak demand as well as the consumption of natural gas through the installation of high-efficiency appliances and weatherization improvements.

APPENDIX F
Categories of Electricity Demand-Side Management Programs

There are several categories of demand-side activities, each of which has its own effect upon the daily and seasonal electrical system load profile (the graph of electricity used versus elapsed time). The compiled numerical data for each of the categories described below is contained in Appendix H. Each supplier of electricity might emphasize a different objective of demand-side management in order to respond best to the needs of their particular customers and system demands.

Conservation

Conservation programs are designed to entice consumers to use less electricity through changes in work and living habits, thereby reducing their need for electricity. Included in this category are public education and awareness programs that promote energy-reducing methods such as conservative thermostat settings, turning off appliances when not in use, and installing low-flow showerheads.

It is difficult to quantify the results of any one program, but most electric suppliers continue to conduct energy awareness advertising campaigns, demonstrations, and seminars for various classes of customers.

Energy Efficiency

Energy efficiency programs reduce energy consumption by encouraging consumers to use energy more efficiently. There are many programs available, and each program is intended for a specific group of electricity users. Some of the targeted groups are newly built residences, existing residences, industry, commercial buildings, and agricultural applications. These programs promote the use of more effective building insulation, high efficiency industrial equipment, high efficiency appliances and air conditioning equipment, and high efficiency lighting. Incentives consist of more favorable rate schedules, cash rebates, low interest loans, and technical assistance. The specific details of the programs vary between suppliers and continue to be modified as needed. These programs are available to most customers and for most classes of customers.

Over 136,000 customers participated in these activities in 1996, resulting in reductions of 129.734 MW of peak demand and over 284,000 MWh in energy consumption. Programs in the residential sector account for most of these reductions (75 percent and 59 percent, respectively). Also, over 70 percent of the peak demand reductions in energy efficiency activities were the result of programs implemented by the electric cooperatives and Carolina Power & Light Company (CP&L).

Load Management

Demand-side activities in this category reduce the instantaneous demand for electricity (MW) by limiting or discouraging use during periods of high demand. For many reasons, it typically costs more to supply power during peak periods. For example, some older, less efficient plants are

only used to meet peak hour demand. Furthermore, other newer facilities are also only brought online during peak hour because they use more expensive fuel (e.g., natural gas or fuel oil). Therefore, transferring the use of energy to periods of lower demand allows the energy to be generated and distributed using more efficient, base-load generating plants. Typical load management activities include allowing direct, remote control of air conditioners and water heaters, interruptible rate schedules for large customers, thermal energy storage systems using off-peak power, and time-of-use rates. These programs are commonly available to most electricity customers in South Carolina and for most classes of customers.

Over 230,000 customers participated in these activities in 1996, resulting in a reduction of the peak demand of 472.767 MW and a decrease in consumption of over 2000 MWh. The residential sector accounted for over half of the demand avoidance. Load management programs used by Duke Power Company accounted for over 70 percent of all peak demand reductions in this category.

Other Activities

Standby Generator Programs -

Standby generation programs provide incentives for customers owning standby generators to utilize them during periods of high demand, thereby reducing the system peak demand. This is a generation displacement program similar to cogeneration, although this category is not a qualified source as defined by the Public Utilities Regulatory Policies Act of 1978. The requirements for these programs vary, but usually there is a payment from the electric company for the amount of capacity that is displaced by the generator as well as a fuel supplement payment based on kWh. Most suppliers require a minimum size generator in order to participate in the program as well as an agreement regarding the operation of the generator.

There were 10,614 customers using standby generation in 1996, resulting in a peak demand reduction of 148.494 MW, and energy use reduction of 798.583 MWh. The standby generator program offered by CP&L provided over 75 percent of the peak demand reductions from this activity in 1996.

Voltage Reduction -

Voltage reduction programs reduce the supplied voltage of electricity to all customers, usually between two and five percent. Lowering the supplied voltage has the overall effect of reducing the demand for electricity. There is some controversy concerning the effects of this practice, and, as a result, it is used primarily as a last resort before interrupting the supply of electricity.

Some municipalities employ this practice for reducing the load during critical periods, thereby reducing the peak demand and energy consumption for all customers in each sector. This resulted in a 15.415 MW peak demand and 673.402 MWh annual consumption reduction in 1996.

APPENDIX G

Listing of Electricity Qualified Facilities

Utility	Plant Owner	Location	Fuel Type	Capacity (MW)	Purchase/ Displace
CP&L	Stone Container	Florence	wood chip	68.0	Purchase
CP&L	Stone Container	Florence	wood chip	27.0	Displace
CP&L	LA-Z-Boy Chair	Florence	wood	0.5	Displace
CP&L	DuPont Chemical	Camden	coal	29.0	Displace
CP&L	Sonoco	Hartsville	coal	27.0	Displace
CP&L	Foster Wheeler	Charleston	refuse	8.7	Purchase
Duke	Aquenergy	Greer	hydro	0.42	Purchase
Duke	Aquenergy	Piedmont	hydro	1.05	Purchase
Duke	Aquenergy	Cateechee	hydro	0.45	Purchase
Duke	Aquenergy	Cateechee	hydro	0.5	Purchase
Duke	Aquenergy	Ware Shoals	hydro	6.3	Purchase
Duke	Pacolet River Power	Clifton	hydro	0.8	Purchase
Duke	Bluestone Energy	Clifton	hydro	1.25	Purchase
Duke	Bob Jones University	Greenville	diesel	4.50	Purchase (2MW) & Displace (2.50MW)
Duke	Pelzer Hydro Co.	Pelzer	hydro	2.02	Purchase
Duke	Pelzer Hydro Co.	Williamston	hydro	3.3	Purchase
Duke	BMW	Greer	gas	5.0	Purchase
Duke	Cherokee Cty. Cogen. Corp.	Gaffney	gas	100.0 (Proj.)	Purchase
Duke	Northbrook Carolina Hydro	Ware Shoals	hydro	1.5	Purchase

Utility	Plant Owner	Location	Fuel Type	Capacity (MW)	Purchase/ Displace
Duke	Northbrook Carolina Hydro	Belton	hydro	3.5	Purchase
Duke	Northbrook Carolina Hydro	Greenville	hydro	2.4	Purchase
Duke	Unspecified Customer Self-Generation		N/A	74.2	Displace
SCE&G	Union Camp Corp.	Eastover	wood chip	97.5	Purchase (34MW)& Displace (63.5MW)
SCE&G	Westvaco Corporation	North Charleston	wood chip	48.0	Displace
SCE&G	Department of Defense	Parris Island	coal	3	Displace
Lockhart	Milliken & Co.	Pacolet	hydro	0.8	Purchase

APPENDIX H
Compiled Numerical Data on Demand-Side Activities

This appendix provides the basic data on demand-side management programs in South Carolina for 1992-2001, compiled from the utilities' 1996 reports to the Energy Office and/or to the Public Service Commission.

Electricity

System Totals by Cooperative

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Aiken Electric Cooperative, Inc.										
Savings From Peak (MW)	3.5	4.0	4.1	4.9	5.1	5.4	5.6	5.7	5.8	5.9
As Percentage of System Peak (%)	2.9	3.6	3.0	3.3	3.2	3.0	2.9	2.7	2.6	2.4
Energy Savings (MWh)	787.5	1,066.5	1,194.0	1,453.5	1,537.5	1,606.5	1,669.5	1,717.5	1,762.5	1,804.5
As Percentage of Total System Energy (%)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Berkeley Electric Cooperative, Inc.										
Savings From Peak (MW)	8.9	9.5	11.7	13.8	15.6	17.3	18.0	18.5	18.9	18.9
As Percentage of System Peak (%)	4.1	4.1	4.2	4.8	5.0	5.8	5.8	5.7	5.6	5.4
Energy Savings (MWh)	2,518.5	3,403.5	3,919.5	5,145.0	5,944.5	6,540.0	6,874.5	7,093.5	7,257.0	7,395.0
As Percentage of Total System Energy (%)	0.3	0.4	0.4	0.5	0.6	0.6	0.6	0.6	0.6	0.6
Black River Electric Cooperative, Inc.										
Savings From Peak (MW)	2.9	3.5	4.6	5.4	5.7	5.9	5.9	5.9	5.9	5.9
As Percentage of System Peak (%)	3.3	3.8	3.8	4.6	4.3	4.5	4.3	4.1	3.8	3.6
Energy Savings (MWh)	1,170.0	1,500.0	1,720.5	2,091.0	2,281.5	2,424.0	2,581.5	2,638.5	2,688.0	2,737.5
As Percentage of Total System Energy (%)	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.4
Coastal Electric Cooperative, Inc.										
Savings From Peak (MW)	0.8	0.8	0.7	1.0	1.2	1.3	1.3	1.4	1.4	1.4
As Percentage of System Peak (%)	3.0	3.0	2.3	2.9	3.4	3.5	3.5	3.5	3.4	3.3
Energy Savings (MWh)	55.5	73.5	90.0	159.0	172.5	183.0	192.0	196.5	202.5	207.0
As Percentage of Total System Energy (%)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Edisto Electric Cooperative, Inc.										
Savings From Peak (MW)	0.9	1.0	1.6	1.7	1.8	1.9	1.9	1.9	2.0	2.0
As Percentage of System Peak (%)	1.9	2.0	2.7	2.8	3.4	2.9	2.8	2.7	2.6	2.6
Energy Savings (MWh)	421.5	534.0	595.5	687.0	756.0	802.5	831.0	853.5	873.0	892.5
As Percentage of Total System Energy (%)	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Fairfield Electric Cooperative, Inc.										
Savings From Peak (MW)	1.9	2.0	2.7	3.2	3.6	3.9	4.1	4.2	4.3	4.4
As Percentage of System Peak (%)	2.3	2.6	2.7	3.0	3.1	3.5	3.5	3.5	3.4	3.3
Energy Savings (MWh)	342.0	426.0	501.0	673.5	774.0	841.5	874.5	909.0	939.0	966.0
As Percentage of Total System Energy (%)	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1

Electricity

System Totals by Cooperative

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Horry Electric Cooperative, Inc.										
Savings From Peak (MW)	4.6	5.2	5.9	7.1	8.0	8.8	9.2	9.5	9.8	10.0
As Percentage of System Peak (%)	4.1	4.4	3.8	4.7	4.3	5.1	5.0	4.9	4.8	4.6
Energy Savings (MWh)	1,752.0	2,301.0	2,692.5	3,576.0	4,435.5	5,056.5	5,347.5	5,617.5	5,839.5	6,039.0
As Percentage of Total System Energy (%)	0.4	0.5	0.6	0.7	0.8	0.9	0.9	0.8	0.8	0.8
Lynches River Electric Cooperative, Inc.										
Savings From Peak (MW)	2.0	2.3	3.1	3.6	3.8	4.1	4.3	4.4	4.5	4.5
As Percentage of System Peak (%)	3.9	4.4	5.4	6.0	5.9	6.2	6.2	6.1	6.0	5.8
Energy Savings (MWh)	496.5	621.0	678.0	871.5	973.5	1,047.0	1,057.5	1,087.5	1,110.0	1,128.0
As Percentage of Total System Energy (%)	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Marlboro Electric Cooperative, Inc.										
Savings From Peak (MW)	0.4	0.5	0.8	0.9	0.7	0.7	0.8	0.8	0.8	0.8
As Percentage of System Peak (%)	0.6	0.7	1.1	1.3	0.7	0.7	0.7	0.7	0.6	0.6
Energy Savings (MWh)	120.0	159.0	169.5	198.0	220.5	235.5	250.5	265.5	280.5	295.5
As Percentage of Total System Energy (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mid-Carolina Electric Cooperative, Inc.										
Savings From Peak (MW)	5.7	6.4	8.0	9.3	10.1	10.7	11.3	11.7	12.0	12.3
As Percentage of System Peak (%)	4.1	4.6	4.5	5.1	5.2	5.7	5.7	5.7	5.6	5.5
Energy Savings (MWh)	1,708.5	2,358.0	2,775.0	3,706.5	4,398.0	4,734.0	5,223.0	5,481.0	5,701.5	5,901.0
As Percentage of Total System Energy (%)	0.3	0.4	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.7
Newberry Electric Cooperative, Inc.										
Savings From Peak (MW)	1.1	1.2	1.5	1.6	1.8	1.9	2.0	2.1	2.1	2.1
As Percentage of System Peak (%)	3.2	3.2	3.6	3.9	4.0	4.2	4.3	4.2	4.1	4.0
Energy Savings (MWh)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of Total System Energy (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Palmetto Electric Cooperative, Inc.										
Savings From Peak (MW)	6.2	6.8	8.0	9.8	11.6	13.1	14.1	14.8	15.4	15.7
As Percentage of System Peak (%)	3.5	3.4	3.5	4.1	4.2	4.9	5.1	5.1	5.0	4.9
Energy Savings (MWh)	415.5	558.0	630.0	948.0	1,332.0	1,570.5	1,734.0	1,852.5	1,944.0	2,020.5
As Percentage of Total System Energy (%)	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2

Electricity

System Totals by Cooperative

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Pee Dee Electric Cooperative, Inc.										
Savings From Peak (MW)	3.0	3.1	3.0	3.3	3.6	3.8	3.9	4.0	4.1	4.1
As Percentage of System Peak (%)	2.7	2.6	2.1	2.4	2.5	2.5	2.4	2.4	2.3	2.2
Energy Savings (MWh)	496.5	562.5	657.0	960.0	1,239.0	1,423.5	1,537.5	1,615.5	1,675.5	1,725.0
As Percentage of Total System Energy (%)	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
Santee Electric Cooperative, Inc.										
Savings From Peak (MW)	4.5	4.7	4.8	5.1	5.3	5.5	5.6	5.7	5.7	5.7
As Percentage of System Peak (%)	3.4	3.0	2.6	2.7	2.5	2.3	2.1	1.9	1.7	1.6
Energy Savings (MWh)	438.0	646.5	759.0	1,078.5	1,213.5	1,302.0	1,356.0	1,398.0	1,432.5	1,462.5
As Percentage of Total System Energy (%)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Tri-County Electric Cooperative, Inc.										
Savings From Peak (MW)	1.5	1.6	1.4	1.5	1.6	1.7	1.7	1.8	1.8	1.8
As Percentage of System Peak (%)	3.3	3.5	2.4	2.5	2.6	2.6	2.6	2.5	2.4	2.3
Energy Savings (MWh)	198.0	283.5	346.5	457.5	528.0	580.5	622.5	645.0	664.5	681.0
As Percentage of Total System Energy (%)	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Central Electric Power Cooperative System ***(includes the 15 preceding members)***										
Savings From Peak (MW)	47.9	52.7	61.8	72.0	79.5	85.9	89.8	92.4	94.5	95.8
As Percentage of System Peak (%)	3.3	3.4	3.4	3.8	3.8	4.1	4.0	3.9	3.7	3.6
Energy Savings (MWh)	10,920.0	14,493.0	16,728.0	22,005.0	25,806.0	28,347.0	30,151.5	31,371.0	32,370.0	33,255.0
As Percentage of Total System Energy (%)	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Saluda River Electric Cooperative System										
Savings From Peak (MW)	21.1	25.9	27.9	30.0	32.5	34.5	36.3	38.2	38.2	42.4
As Percentage of System Peak (%)	5.3	6.0	6.7	6.4	6.6	6.6	6.6	6.6	6.3	6.7
Energy Savings (MWh)	8,793.8	10,663.2	11,703.3	12,543.4	13,445.5	14,302.6	15,111.7	15,966.6	16,669.8	17,824.2
As Percentage of Total System Energy (%)	0.5	0.6	0.7	0.6	0.7	0.6	0.7	0.7	0.7	0.7
Total Cooperatives										
Savings From Peak (MW)	68.9	78.6	89.8	102.0	112.0	120.4	126.1	130.7	132.7	138.2
As Percentage of System Peak (%)	3.7	4.0	4.0	4.3	4.4	4.6	4.5	4.4	4.2	4.2
Energy Savings (MWh)	19,713.8	25,156.2	28,431.3	34,548.4	39,251.5	42,649.6	45,263.2	47,337.6	49,039.8	51,079.2
As Percentage of Total System Energy (%)	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4

Electricity

System Totals by Muncipalities

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Bamberg Board of Public Works										
Savings From Peak (MW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of System Peak (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Energy Savings (MWh)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of Total System Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
City of Abbeville										
Savings From Peak (MW)	0.0	0.1	0.2	0.4	0.5	0.5	0.5	0.5	0.5	0.5
As Percentage of System Peak (%)	0.0	0.5	1.4	3.0	3.1	3.0	3.0	3.0	3.0	2.9
Energy Savings (MWh)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of Total System Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
City of Bennettsville										
Savings From Peak (MW)	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8
As Percentage of System Peak (%)	0.0	0.0	0.0	0.0	0.0	3.3	3.3	3.3	3.3	3.3
Energy Savings (MWh)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of Total System Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
City of Camden										
Savings From Peak (MW)	3.2	4.5	4.4	4.3	4.5	4.6	4.8	4.9	5.1	5.3
As Percentage of System Peak (%)	7.8	10.5	11.0	11.6	10.5	10.8	10.9	11.0	11.1	11.2
Energy Savings (MWh)	189.0	269.2	264.4	259.4	269.5	277.5	286.9	296.3	305.6	315.1
As Percentage of Total System Energy	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
City of Georgetown										
Savings From Peak (MW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of System Peak (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Energy Savings (MWh)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of Total System Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
City of Newberry										
Savings From Peak (MW)	0.0	0.9	1.2	2.0	2.1	2.1	2.1	2.1	2.2	2.2
As Percentage of System Peak (%)	0.0	3.0	3.8	6.2	6.2	6.1	6.1	6.0	6.0	6.0
Energy Savings (MWh)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of Total System Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Electricity

System Totals by Muncipalities

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
City of Rock Hill										
Savings From Peak (MW)	9.3	11.1	12.6	12.9	12.6	13.3	13.7	14.1	14.5	14.9
As Percentage of System Peak (%)	8.5	9.6	11.4	10.2	10.2	10.5	10.4	10.3	10.2	10.1
Energy Savings (MWh)	441.6	758.2	809.1	674.3	592.0	680.0	700.0	720.0	740.0	760.0
As Percentage of Total System Energy	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
City of Union										
Savings From Peak (MW)	0.0	0.3	0.7	0.8	0.8	0.8	0.9	0.9	0.9	0.9
As Percentage of System Peak (%)	0.0	1.0	2.4	2.4	2.6	2.4	2.4	2.4	2.4	2.4
Energy Savings (MWh)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of Total System Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Clinton Public Works										
Savings From Peak (MW)	0.0	0.2	0.5	1.2	1.2	1.3	1.3	1.3	1.4	1.4
As Percentage of System Peak (%)	0.0	0.7	1.8	4.4	4.6	4.4	4.4	4.4	4.4	4.4
Energy Savings (MWh)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of Total System Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Easley Combined Utility System										
Savings From Peak (MW)	1.0	1.5	3.4	4.4	5.0	5.6	5.8	5.9	6.1	6.2
As Percentage of System Peak (%)	2.1	2.9	7.5	8.3	9.9	10.3	10.3	10.3	10.3	10.3
Energy Savings (MWh)	97.0	105.0	210.0	220.0	202.4	218.4	225.6	230.4	236.4	242.8
As Percentage of Total System Energy	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Gaffney Board of Public Works										
Savings From Peak (MW)	1.4	6.9	7.1	12.2	12.3	12.4	12.4	12.5	12.5	12.5
As Percentage of System Peak (%)	4.2	18.9	20.6	31.0	33.1	30.5	30.0	29.6	29.1	28.5
Energy Savings (MWh)	0.0	693.5	866.5	741.6	768.1	750.0	752.0	752.0	752.0	752.0
As Percentage of Total System Energy	0.0	0.4	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.3
Greenwood Commission of Public Works										
Savings From Peak (MW)	0.0	0.0	0.0	4.9	2.6	4.7	4.7	4.8	4.9	5.0
As Percentage of System Peak (%)	0.0	0.0	0.0	14.4	6.5	11.8	11.5	11.3	11.2	11.2
Energy Savings (MWh)	0.0	0.0	0.0	26.0	12.3	25.0	25.3	25.5	27.8	28.0
As Percentage of Total System Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Electricity

System Totals by Muncipalities

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Greer Commission of Public Works										
Savings From Peak (MW)	1.2	1.5	1.9	2.3	2.5	2.8	3.1	3.2	3.3	3.3
As Percentage of System Peak (%)	4.5	5.4	6.5	6.7	6.2	6.9	7.4	7.4	7.4	7.4
Energy Savings (MWh)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of Total System Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Laurens CPW										
Savings From Peak (MW)	0.0	0.03	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.3
As Percentage of System Peak (%)	0.0	0.1	0.6	1.0	1.2	1.4	1.4	1.4	1.4	1.4
Energy Savings (MWh)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of Total System Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
McCormick Commission of Public Works										
Savings From Peak (MW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of System Peak (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Energy Savings (MWh)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of Total System Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Orangeburg Department of Public Utilities										
Savings From Peak (MW)	2.8	3.6	3.9	3.9	4.0	4.1	4.1	4.1	4.1	4.1
As Percentage of System Peak (%)	1.9	2.3	2.5	2.4	2.4	2.4	2.3	2.3	2.2	2.2
Energy Savings (MWh)	500.0	600.0	650.0	650.0	500.0	0.0	0.0	0.0	0.0	0.0
As Percentage of Total System Energy	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Seneca Light and Water Plant										
Savings From Peak (MW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of System Peak (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Energy Savings (MWh)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of Total System Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Town of Due West										
Savings From Peak (MW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of System Peak (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Energy Savings (MWh)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of Total System Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Electricity

System Totals by Muncipalities

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Town of Prosperity										
Savings From Peak (MW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of System Peak (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Energy Savings (MWh)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of Total System Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Town of Winnsboro										
Savings From Peak (MW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of System Peak (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Energy Savings (MWh)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of Total System Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Westminster Commission of Public Works										
Savings From Peak (MW)	0.0	0.01	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.4
As Percentage of System Peak (%)	0.0	0.1	2.0	3.9	4.6	5.1	5.2	5.2	5.2	5.2
Energy Savings (MWh)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of Total System Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Municipalities										
Savings From Peak (MW)	18.8	30.6	36.0	49.9	48.7	53.6	54.7	55.7	56.7	57.6
As Percentage of System Peak (%)	1.9	2.3	2.6	3.9	4.0	4.0	4.0	4.0	4.0	3.9
Energy Savings (MWh)	1227.6	2425.9	2800.0	2571.3	2344.2	1950.9	1989.8	2024.2	2061.8	2097.9
As Percentage of Total System Energy	0.04	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Electricity

System Totals by Generating Utility

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Carolina Power & Light										
Savings From Peak (MW)	116.7	122.6	149.1	166.0	190.5	144.8	142.8	140.8	138.7	135.9
As Percentage of System Peak	10.0	9.8	13.0	13.0	16.7	12.0	11.5	11.1	10.7	10.3
Energy Savings (MWh)	190,500.0	197,800.0	203,600.0	198,543.0	199,930.0	93,548.0	96,565.0	99,732.0	102,933.0	106,154.0
As Percentage of Total System Energy	3.2	3.1	3.2	3.0	3.0	1.4	1.4	1.4	1.4	1.4
Duke Power Company										
Savings From Peak (MW)	373.5	391.1	382.8	397.2	381.0	383.7	387.3	390.2	390.5	392.6
As Percentage of System Peak	10.9	10.7	10.9	10.3	10.5	9.6	9.5	9.4	9.1	9.0
Energy Savings (MWh)	3,414.0	3,672.0	3,522.0	3,863.0	3,640.0	4,012.0	4,065.0	4,137.0	4,284.0	4,372.0
As Percentage of Total System Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lockhart Power Company										
Savings From Peak (MW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of System Peak	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Energy Savings (MWh)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of Total System Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Santee Cooper										
Savings From Peak (MW)	6.1	7.9	9.9	11.4	13.8	16.0	18.3	20.7	23.1	25.6
As Percentage of System Peak	0.5	0.7	1.0	1.2	1.3	1.4	1.6	1.8	2.0	2.2
Energy Savings (MWh)	5,572.3	6,984.9	8,617.5	10,272.3	11,888.8	13,633.9	15,428.0	17,277.5	19,183.1	21,144.7
As Percentage of Total System Energy	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
SC Electric & Gas Company										
Savings From Peak (MW)	32.0	37.6	49.4	32.3	20.4	2.4	2.3	2.1	2.1	2.1
As Percentage of System Peak	1.0	1.1	1.6	0.9	0.6	0.1	0.1	0.1	0.1	0.1
Energy Savings (MWh)	25,821.6	30,972.4	33,208.6	18,822.9	14,135.2	6,185.0	5,935.0	5,485.0	5,485.0	5,385.0
As Percentage of Total System Energy	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0

Electricity

System Totals by Supplier

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total Cooperatives										
Savings From Peak (MW)	68.9	78.6	89.8	102.0	112.0	120.4	126.1	130.7	132.7	138.2
As Percentage of System Peak (%)	3.7	4.0	4.0	4.3	4.4	4.6	4.5	4.4	4.2	4.2
Energy Savings (MWh)	19,713.8	25,156.2	28,431.3	34,548.4	39,251.5	42,649.6	45,263.2	47,337.6	49,039.8	51,079.2
As Percentage of Total System Energy (%)	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Total Municipalities										
Savings From Peak (MW)	18.8	30.6	36.0	49.9	48.7	53.6	54.7	55.7	56.7	57.6
As Percentage of System Peak (%)	1.9	2.3	2.6	3.9	4.0	4.0	4.0	4.0	4.0	3.9
Energy Savings (MWh)	1,227.6	2,425.9	2,800.0	2,571.3	2,344.2	1,950.9	1,989.8	2,024.2	2,061.8	2,097.9
As Percentage of Total System Energy (%)	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Carolina Power & Light										
Savings From Peak (MW)	116.7	122.6	149.1	166.0	190.5	144.8	142.8	140.8	138.7	135.9
As Percentage of System Peak	10.0	9.8	13.0	13.0	16.7	12.0	11.5	11.1	10.7	10.3
Energy Savings (MWh)	190,500.0	197,800.0	203,600.0	198,543.0	199,930.0	93,548.0	96,565.0	99,732.0	102,933.0	106,154.0
As Percentage of Total System Energy	3.2	3.1	3.2	3.0	3.0	1.4	1.4	1.4	1.4	1.4
Duke Power Company										
Savings From Peak (MW)	373.5	391.1	382.8	397.2	381.0	383.7	387.3	390.2	390.5	392.6
As Percentage of System Peak	10.9	10.7	10.9	10.3	10.5	9.6	9.5	9.4	9.1	9.0
Energy Savings (MWh)	3,414.0	3,672.0	3,522.0	3,863.0	3,640.0	4,012.0	4,065.0	4,137.0	4,284.0	4,372.0
As Percentage of Total System Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lockhart Power Company										
Savings From Peak (MW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of System Peak	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Energy Savings (MWh)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
As Percentage of Total System Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Santee Cooper										
Savings From Peak (MW)	6.1	7.9	9.9	11.4	13.8	16.0	18.3	20.7	23.1	25.6
As Percentage of System Peak	0.5	0.7	1.0	1.2	1.3	1.4	1.6	1.8	2.0	2.2
Energy Savings (MWh)	5,572.3	6,984.9	8,617.5	10,272.3	11,888.8	13,633.9	15,428.0	17,277.5	19,183.1	21,144.7
As Percentage of Total System Energy	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
SC Electric & Gas Company										
Savings From Peak (MW)	32.0	37.6	49.4	32.3	20.4	2.4	2.3	2.1	2.1	2.1
As Percentage of System Peak	1.0	1.1	1.6	0.9	0.6	0.1	0.1	0.1	0.1	0.1
Energy Savings (MWh)	25,821.6	30,972.4	33,208.6	18,822.9	14,135.2	6,185.0	5,935.0	5,485.0	5,485.0	5,385.0
As Percentage of Total System Energy	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0

Electricity

Qualified Producers in South Carolina

Cogeneration and Renewable Fuels	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**
Energy (MWh)	759,414.5	744,795.4	738,479.3	747,621.7	743,261.9	766,214.7	1,043,207.6	1,324,240.4	1324273.3	1324306.2

APPENDIX I
Form to Report Demand-Side Activities

The following is the form sent to the utilities by the South Carolina Energy Office to obtain information on demand-side activities.

Reporting Demand-Side Activities

to the

South Carolina Energy Office

[Pursuant to Section 58-37-30(B) of South Carolina Code]

QUANTITATIVE DATA:

1. Please use the attached forms to provide quantitative data on demand-side activities. The reporting period includes actual data for 1992 through 1996 and projected values for 1997 through 2001.

2. If you have no demand-side activities, please indicate this on the forms and return. We still need data on your customer base and system size.

NOTE: The quantitative data may be submitted as a LOTUS 1-2-3 or Microsoft EXCEL spreadsheet on a DOS-formatted diskette.

QUALITATIVE DATA:

1. Provide summary descriptions of each demand-side activity identified in this year's report.

2. Please attach any additional explanatory information you want included in this report.

If you would like a copy of the 1995 report, *The Status of Utility Demand-Side Management Activities in South Carolina for 1995*, or a copy of the data you filed last year, please contact The South Carolina Energy Office at 1-800-851-8899, or (803) 737-8030.

Demand-Side Activities Form 1

Data for Each Demand-Side Activity

Quantitative Data-- Name: _____

Provide system summary totals for 12-month periods (on a calendar year basis)

* using actual, or estimated actual, annual values for each of the previous 5 calendar years, January 1993 through December 1997.

* using projected annual values (using most probable economic assumptions with normal weather) for each of the next 5 calendar years, January 1998 through December 2002.

* and providing the following data:

DATA DESCRIPTION		ACTUAL 1993	1994	1995	1996	1997	PROJECTED 1998	1999	2000	2001	2002
DEMAND SIDE ACTIVITY NAME:	(1) Total kW saved, or avoided, from annual peak for this demand-side activity.										
	(2) Total kWh saved, or avoided, from overall annual usage for this demand-side activity.										
CUSTOMER CLASS:	(3) Proportion of total customers in class (%) for whom this demand-side activity is available.										
	(4) Number of customers participating in this demand-side activity.										
DEMAND SIDE ACTIVITY NAME:	(1) Total kW saved, or avoided, from annual peak for this demand-side activity.										
	(2)Total kWh saved, or avoided, from overall annual usage for this demand-side activity.										
CUSTOMER CLASS:	(3) Proportion of total customers in class (%) for whom this demand-side activity is available.										
	(4) Number of customers participating in this demand side-activity.										

Demand-Side Activities Form 2

Overall System Data

Quantitative Data-- Name: _____

Provide system summary totals for 12-month periods (on a calendar year basis)

* using actual, or estimated actual, annual values for each of the previous 5 calendar years, January 1993 through December 1997.
* using projected annual values (using most probable economic assumptions with normal weather) for each of the next 5 calendar years, January 1998 through December 2002.
* and providing the following data:

DATA DESCRIPTION	ACTUAL					PROJECTED				
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
(5) Annual MW peak system demand, excluding sales for re-sale (for projections, show expected values already reduced by demand-side effects).										
(6) Total annual system MWh, excluding sales for re-sale (for projections, show expected values already reduced by demand-side effects).										
(7) Total miles of distribution line in service area (in miles).										
(8) Total number of customers (all classes).										
(9) Total generation (kWh) supplied from qualified producers (IPP, cogeneration) or avoided due to their operation (NOTE: attach a list showing the identity and generating capacity of each qualified producer in the system).										

Natural Gas Demand-Side Activities Form 1

Data for Each Demand-Side Activity

Quantitative Data-- Name: _____

Provide system summary totals for 12-month periods (on a calendar year basis)

* using actual, or estimated actual, annual values for each of the previous 5 calendar years, January 1993 through December 1997.

* using projected annual values (using most probable economic assumptions with normal weather) for each of the next 5 calendar years, January 1998 through December 2002

* and providing the following data:

DATA DESCRIPTION		ACTUAL 1993	1994	1995	1996	1997	PROJECTED 1998	1999	2000	2001	2002
DEMAND SIDE ACTIVITY NAME:	(1) Total therms or dekatherms saved, or avoided, from annual peak for this demand-side activity.										
	(2) Total therms or dekatherms saved, or avoided, from overall annual usage for this demand-side activity.										
CUSTOMER CLASS:	(3) Proportion of total customers in class (%) for whom this demand-side activity is available.										
	(4) Number of customers participating in this demand-side activity.										
DEMAND SIDE ACTIVITY NAME:	(1) Total therms or dekatherms saved, or avoided, from annual peak for this demand-side activity.										
	(2) Total therms or dekatherms saved, or avoided, from overall annual usage for this demand-side activity.										
CUSTOMER CLASS:	(3) Proportion of total customers in class (%) for whom this demand-side activity is available.										
	(4) Number of customers participating in this demand side-activity.										

Natural Gas Demand-Side Activities Form 2

Overall System Data

Quantitative Data-- Name: _____

Provide system summary totals for 12-month periods (on a calendar year basis)

* using actual, or estimated actual, annual values for each of the previous 5 calendar years, January 1993 through December 1997.

* using projected annual values (using most probable economic assumptions with normal weather) for each of the next 5 calendar years, January 1998 through December 2002

* and providing the following data:

DATA DESCRIPTION	ACTUAL					PROJECTED				
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
(5) Annual DT peak system demand, excluding sales for re-sale (for projections, show expected values already reduced by demand-side effects).										
(6) Total annual system DT, excluding sales for re-sale (for projections, show expected values already reduced by demand-side effects).										
(7) Total miles of distribution line in service area (in miles).										
(8) Total number of customers (all classes).										